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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,478

07/06/2006

Harald Engler

13806/48

4311

26646 7590 12/07/2009

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EXAMINER

KILPATRICK, BRYAN T

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

12/07/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,478	Applicant(s) ENGLER ET AL.	
	Examiner BRYAN T. KILPATRICK	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendments and arguments/remarks filed on 18 August 2009 have been entered and fully considered.
2. Instant claims 11, 17, and 21 have been amended by Applicant's amendments.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11-12, 15-18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 20030049858 (GOLDEN et al.).

In regards to instant claim 11, GOLDEN et al. discloses a method for controlling at least one operating variable of an electrolytic bath (Abstract), comprising: ascertaining a concentration of at least one bath component (paragraph [0021]) wherein the bath component(s) is ionic and can be used in coating such as plating (paragraphs [0007]-[0008]); processing concentration values in a control device into control variables of a control element (paragraph [0021]-[0022]); and changing the operating variable by the control element in accordance with set point inputs (paragraph [0021]-[0022]);

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wherein the concentration is ascertained in the ascertaining step by withdrawing a sample from the bath, exciting the sample by electromagnetic radiation and analyzing a spectrum of light emitted by the sample. GOLDEN et al. discloses that light emitted from the sample is Raman scattered light in paragraph [0021].

However, GOLDEN et al. teaches in paragraph [0017] that Raman scattering analysis causes fluorescence of the solution during analysis, which can be observed over the scattering. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use fluorescence for the purpose of analyzing a sample. The motivation would have been because many compounds fluoresce and the fluorescence signal is more pronounced than the scattering signal (paragraph [0017]).

Instant claim 12 recites supplying a sample via a line to at least one sample container. GOLDEN et al. discloses a plating sample enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps in paragraph [0050].

Instant claim 15 recites the sample is excited optically. Instant claim 16 recites the sample is excited optically by a laser beam. GOLDEN et al. teaches using laser light to cause electronic state transitions in paragraph [0017].

In regards to instant claim 17, GOLDEN et al. discloses a device for controlling at least one operating variable of at least one electrolytic bath (the system of the Abstract and paragraph [0020]), comprising: an arrangement adapted to ascertain a

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concentration of at least one bath component (paragraph [0020]) wherein the bath component(s) is ionic and can be used in plating (paragraphs [0007]-[008]); a setpoint adjustment device for the operating variable (paragraph [0022]); an open-loop and closed-loop control device connected to the arrangement and to the setpoint adjustment device (paragraphs [0019] and [0022]), the control device including a control element adapted to change the operating variable (paragraph [0022]); and a device adapted to transmit at least one sample of the bath to the arrangement (paragraph [0050]); wherein the arrangement includes a laser directed onto the sample and a spectral analysis device adapted for spectral analysis of light emitted by the sample (paragraphs [0017] and [0019]-[0020]).

Instant claim 18 recites a device adapted to transmit the at least one sample includes a pipeline system in an electroplating plant having several baths. GOLDEN et al. discloses a plating sample enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps in paragraph [0050]

In regards to instant claim 21, GOLDEN et al. discloses a device for controlling at least one operating variable of at lease one electrolytic bath (the system of the Abstract and paragraph [0020]), comprising: means for ascertaining a concentration of at least one bath component (paragraph [0020]) wherein the bath component(s) is ionic and can be used in plating (paragraphs [0007]-[008]); means for adjusting a setpoint of the operating variable (paragraphs [0019] and [0022]); open-loop and closed-loop control means connected to the ascertaining means and the adjusting means (paragraphs [0019] and [0022]); means for changing the operating variable (paragraph [0022]); and

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means for transmitting at least one sample of the bath to the ascertaining means (paragraph [0050]); wherein the ascertaining means includes laser means directed onto the sample and means for spectral analysis of light emitted by the sample (paragraphs [0017] and [0019]-[0020]).

Claims 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 20030049858 (GOLDEN et al.) as applied to instant claim 11 above, and further in view of U.S. Patent 4778763 (MAKIGUCHI et al.).

Instant claim 13 recites successively filling a plurality of sample containers with sample, and then carrying the sample containers past a spectroscopic measurement device. Instant claim 14 recites supplying several samples onto a sample plate and carrying the samples past a spectroscopic measurement device by rotating the sample plate. GOLDEN et al discloses in paragraph [0050] that a plating solution sample to be analyzed enters a sample subvolume through normal operating circulation or via one or more pumps. GOLDEN et al. does not disclose filling a plurality of sample containers with sample, carrying the sample containers past a spectroscopic measurement device, or using a rotating sample plate with a spectroscopic measurement device.

However, MAKIGUCHI et al. discloses in the Abstract and Figure 1 a turntable holding a train of reaction containers for holding and moving samples for analysis via light irradiation and collection of light fluoresced by the sample. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the

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sample turntable of MAKIGUCHI et al. with the method of GOLDEN et al. for the purpose of observing sample fluorescence for analysis. The motivation would have been to analyze samples using fluorescence, and to conduct the analysis with little error by reducing the influence of background fluorescence (col. 2, lines 44-52 of MAKIGUCHI et al.).

Instant claim 19 recites at least one pipe having an intake end immersed into a corresponding one of the baths and an outlet end arranged at a rotatable sample plate that is partially located in a radiation range of the laser. Instant claim 20 recites a device adapted to remove analyzed samples from the sample plate. GOLDEN et al discloses in paragraph [0050] that a plating solution sample to be analyzed enters a sample subvolume through normal operating circulation of the bulk bath or via one or more pumps. MAKIGUCHI et al. discloses the use of dispensers (col. 3, lines 61-62 and col. 4, line 23) for dispensing reagents and specimens on a turntable for spectral analysis (col. 3, lines 65-68).

Response to Arguments

Applicant's arguments/remarks filed 18 August 2009 have been fully considered but they are not persuasive.

Applicant states on p. 6-7 of the remarks that the current prior art of record does not disclose, or even suggest, a method or device that includes "ascertaining a

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concentration of at least one ionic bath component, including at least one of (a) coating metal ions in a process bath and (b) foreign ions in a rinse bath.” GOLDEN et al. discloses a means for ascertaining a concentration of at least one bath component in paragraph [0020]; in regards to the ionic aspects, GOLDEN et al. further discloses that the chloride ions are introduced occasionally into additives for enhancement of electroplating in paragraphs [0007]-[0008]. Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to use fluorescence for the purpose of analyzing ionic components contained within a sample.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN T. KILPATRICK whose telephone number is (571)270-5553. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. T. K./
Examiner, Art Unit 1797

/Samuel P Siefke/
Primary Examiner, Art Unit 1797